



## Northwest Aquatic & Marine Educators

### NAME 2010 Annual Conference

# No Educator Left Inside: Exploring the Ocean & Watershed

If you teach about the ocean or watersheds or water, or want to, don't miss Florence this summer!

Come outside to the central Oregon Coast, a breathtaking backdrop for an outstanding professional educational development opportunity.

NAME conferences are known for their innovative ideas, creative approaches, and cutting edge teaching materials, and this one is no different.

The conference will feature:

- four pre-conference workshops,
- excellent plenary and concurrent sessions,
- unique field experiences, and
- unforgettable social events.



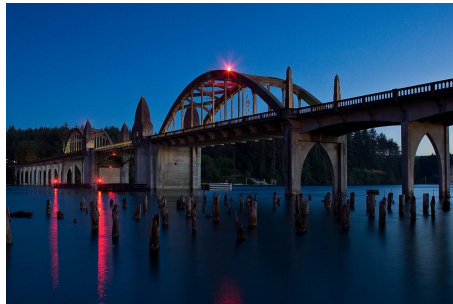
# REGISTER NOW!

Deadlines

Call for Papers: **May 24**

Early Bird Registration: **June 14**

Topics include whales and whale research, place-based learning, climate change in the Pacific, marine fishery curricula, to name a few, as well as sessions on the best educational materials out there.



### CONFERENCE LOGISTICS

- NAME members receive a discount on conferences
- Clock hours and credit will be available
- Conference costs will include meals
- Lodging - there are a variety of options available in Florence including: yurts and camping at Honeyman State Park, hotels/ motels and vacation rentals.

#### BOOK EARLY!

- Field trips will highlight working with groups outdoors

For conference updates and announcements visit:

[www.pacname.org](http://www.pacname.org)

Florence, Oregon, July 7-10, 2010

### Conference At A Glance

#### Wednesday, July 7

- Pre-conference workshops (4):
  - Teaching Science through Literature
  - Ocean Literacy in the PNW
  - Educational Strategies for Informal Education Sites
  - Growing Up WILD: Project WILD
- Welcome Reception
- SeaFaire
- First Annual Photo Contest

#### Thursday, July 8

- Opening Plenary Session—**No Educator Left Inside** - Ryan Shaffer
- Field Trips (this is just a few of them!):
  - Paleodune tour
  - Forest Ecology & Wetlands
  - Cape Perpetua—tidepools
  - Horseback beach tour
  - Umpqua Discovery Center
  - Sea Lion Caves
  - Crab boat tour
  - Siuslaw kayak
  - Evening BBQ at Woahink Lake, Honeyman State Park

#### Friday, July 9

- Plenary -
  - **Our Changing Ocean** - Dr. Bill Peterson, OSU/ NOAA
  - Concurrent Sessions
  - Plenary - **A Life of Discovering Marine Mammals**, Dr. Bruce Mate, OSU
  - Banquet—NAME Awards and Auction

#### Saturday, July 10

- NAME Business Meeting
- Concurrent Sessions
- Closing Plenary Session—**Discovery of Place** - Dr. Gregory Smith

The **NAME** Board meets twice a year. To receive Board email announcements and mail outs, contact Bill Hastie, [hastiestuff@mac.com](mailto:hastiestuff@mac.com)



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## NMEA Report— Spring 2010

by Deborah McArthur



Hello NAME friends,

Registration is now open for the national conference, "From Mountains to the Sea," July 18-23, 2010 in Gatlinburg, TN. Or plan for next year "Cape to Cape: In the Hub of Marine Education," June 29-July 3, 2011 in Boston, MA. Of course, the national conference NOT to be missed will be in 2012 in Anchorage, AK, hosted by our own NAME chapter!! Keep in mind there are scholarships available to attend the national conferences, as well as Expanded Audience Stipends, which strive to increase participant diversity. NMEA is also supporting a new *Living on the Ocean Planet* video contest, hosted by the coordinators of the National Ocean Science Bowl. Look for details in the fall and encourage students you know to participate. More information about NMEA can always be found at: [www.marine-ed.org](http://www.marine-ed.org)

About NMEA: The **National Marine Educators Association** brings together those interested in the study and enjoyment of the world of fresh and salt water and provides a focus for marine and aquatic studies all over the world.

**To learn more about NMEA:**  
**National Marine Educators Association**  
Visit their website at: [www.marine-ed.org](http://www.marine-ed.org) or  
contact Deb McArthur at [debz.mcarthur@gmail.com](mailto:debz.mcarthur@gmail.com)

**Join the NAME BOARD!!**  
**See the World!!!**

Well, maybe not "the world", but certainly some of the best parts of the world: the Northwest US, beautiful British Columbia, and Alaska! NAME is looking for a few good people to help the organization continue to move forward. Responsibilities include attending at least two Board meetings per year, taking care of action items specific to Board positions, and being an ambassador for marine and aquatic education.

Nominations are accepted for all Board positions, but the specific vacancies we are looking to fill are for Washington Chapter Co-Director and for President-Elect. Questions? (Can you nominate yourself? YES!) Ideas? Suggestions? Please contact Linda Maxson, Immediate Past President (whose responsibilities include chairing the nomination committee) at [lmaxson@gmail.com](mailto:lmaxson@gmail.com) or by calling 206-300-1636.

# ON WATCH

NAME President's Column



In the last issue of *Scuttlebutt*, I took a look at what NAME has been, and what it has become. For this issue, I'd like to imagine what NAME could be and will be... sooner than you might think.

For several years, NAME has dreamed of a "Renaissance" – finding ways to be more effective, creative, and successful in accomplishing its goals. We gave up long ago on ever having adequate funding for these tasks – instead, we have relied upon the sweat equity of our members to keep NAME going. Sometimes, our efforts fell short of our dreams, but the dreams continued anyway. Dreaming, after all, is the prerequisite of hope, and hope is the prerequisite of...well, about anything worthwhile.

Today, we continue to dream and hope that every young person in Alaska, British Columbia, Washington and Oregon will understand and practice their lifelong role in sustaining a healthy ocean and healthy watersheds, appreciate the beauty and grandeur of the waters of our region, and teach their children to do the same.

Small steps, though. Each big dream has small steps that lead to the realization of the dream. Here are some "what ifs" we dreamed about:

**WHAT IF** NAME could be the "go to" organization for the region's marine and aquatic educators? **WHAT IF** educators contacted NAME first for ideas, resources, collaboration, and information to help them achieve their goals?

To reach that vision, **WHAT IF** NAME developed a state-of-the-art website that was current, user-friendly and informative, dealt with water in all its locations and forms, and was useful to educators and others interested in sustaining regional waters at all levels and all subject matter?

**WHAT IF** NAME expanded its newsletter, *Scuttlebutt*, to a first class, read-every-page resource and distributed it on-line?

**WHAT IF** NAME maintained a collection of sure-fire classroom and outside learning activities across the curriculum at all levels for easy use and download?

**WHAT IF** you could go to the NAME website and easily discover what marine and aquatic events, workshops, conferences, meetings and other professional development opportunities were happening around you?

**WHAT IF** you could register on-line for conferences, and pay registration fees, join NAME, and pay dues all on-line. Even purchase "NAME Gear" on-line?

**WHAT IF** you could access the latest marine and aquatic research and researchers, educational innovations and pro-

grams, and opportunities for your audiences on-line? And link to a plethora of other interesting sites?

**WHAT IF** you could access a variety of audio-visual presentations on various topics on-line, ready for your use the next day?

**WHAT IF** you could browse a library of photos and video clips of marine and aquatic organisms, habitats, reports on issues and other resources to use in your programs?

**WHAT IF** you, as a member, could access other NAME members, find out what happened at the last NAME Board or committee meeting, apply for a Mini-grant or scholarship, participate in NAME elections, and have special access to various educational innovations?

**WHAT IF?** These have been the dreams, dreams of the future, of what could be. But they are no longer dreams. They are soon to be realities – realities that will significantly improve NAME's services to the educational community. Our new website is operating now with more features to be added in the near future.

As a member, you are part of realizing these dreams. Your support, your interest, your participation are key elements that have given us hope and determination to take what, for NAME, is really a pretty large step. NAME is forming a new Communications Committee – members to contribute stories, events, ideas, resources, photos, activities – all of it. If you have interest in joining the team, contact your state or provincial director(s). Whatever you do, stay involved, dedicated and devoted to our World of Water – both fresh and salt.

## Are you wondering how much you should be involved with social media?

To view a video (about 4.5 minutes long) that will get you thinking about how institutions/businesses should create a presence in the social media go to:

<http://www.youtube.com/watch?v=sIFYPQjYhv8>

It was created by Socialnomics.net, a social media blog maintained by Erik Qualman of EF Education in Cambridge, MA. His research and those of others is showing that all of this talk about social media is no fad. So, fasten your seat belts!

## **SCUTTLEBUTT** Submission Information

THE SUBMISSION DEADLINE FOR THE  
FALL/ WINTER 2010 ISSUE is **September 1st**

Please send information to:  
Bill Hastie, [hastiestuff@mac.com](mailto:hastiestuff@mac.com)



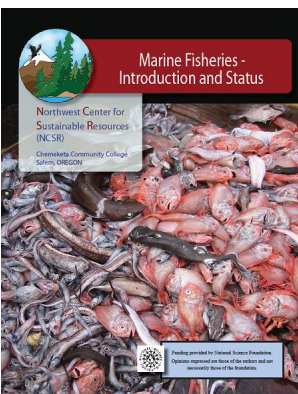
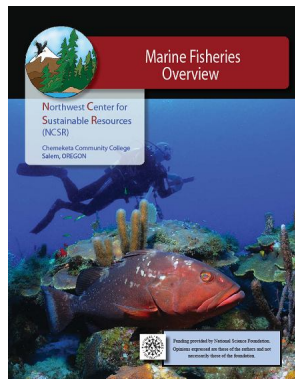
# NEW Marine Fisheries Curriculum Available

Submitted by Wynn W. Cudmore, Ph.D.



The Northwest Center for Sustainable Resources (NCSR) is a national resource center for curriculum products supporting undergraduate natural resource programs. The Center is funded by the National Science Foundation and is based at Chemeketa Community College in Salem, Oregon. NCSR has recently completed a comprehensive series of curriculum modules that examines marine fisheries issues. The *NCSR Marine Fisheries Series* is comprised of ten modules covering the historical context, current status, causes for decline, management approaches and anticipated future of this vital resource. Each module includes a detailed PowerPoint presentation, extensive instructor notes and citations of print, web and video resources for further study. Although primarily designed as lecture support for faculty, some are student-based activities, such as the *Seafood* module, in which students evaluate the sustainability of locally available seafood. The following titles are included in the series:

- *Marine Fisheries Overview*
- *Marine Fisheries – Introduction and Status*
- *Marine Fisheries – Cause for Decline and Impacts*
- *Marine Fisheries – Management and Proposed Solutions*
- *Declining Expectations – The Phenomenon of Shifting Baselines*
- *The Role of Marine Reserves in Ecosystem-based Fisheries Management*



- *The Decline of Atlantic Cod – A Case Study*
- *Shrimp Farming – Environmental and Social Impacts*
- *Where Does Your Seafood Come From?*
- *Comprehensive Resources for NCSR Marine Fisheries Series*

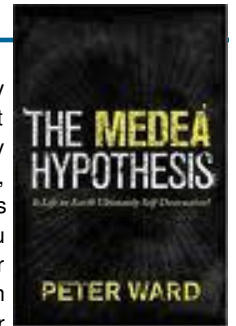
The marine fisheries modules are most appropriate for inclusion in undergraduate courses, such as *Environmental Science*, *Marine Biology* and *Fisheries Management*. Some modules also have application in courses with a broader scope such as *General Ecology* and *General Biology* and for informal science education audiences, such as those at aquaria, museums and nature centers. The series is currently being used to inform members of Marine Reserve Community Teams, which have been established to oversee the implementation and

## BOOK REVIEW

### *The Medea Hypothesis: Is Life on Earth Ultimately Self-Destructive?*

Authors: Peter Ward  
 Publisher: Princeton Press

Review by Orlay Johnson



This book might be more appropriately titled, “*Mothers who Murder their Children.*” It explores how Mother Earth periodically cleans house of the majority its biota. Sadly, the reference to Medea in the actual title is probably lost of on most of us, unless you know more Greek mythology than I did. For the rest of us, Medea was the wife of Jason the Argonaut, who took revenge on her cheating husband by murdering her own children. Suddenly the book sounds more interesting, huh?

The author, University of Washington Professor and local Seattle boy, Peter Douglas Ward, is a paleontologist who keeps chambered nautilus in his office to study their life history. He recently returned from a season of research in Antarctica, so expect his next book to focus on fossils from the South Pole (you heard it here first).

A very prolific writer, with over 12 “popular science” books on geology, prehistoric animals and mass extinctions in print, including *The Call of Distant Mammoths: Why the Ice Age Mammals Disappeared* (1997) and his more recent *Under a Green Sky* (2007). Most of them are setting on my bookshelf watching me as I type this review of their newest sibling. Ward’s trick to literary longevity is to take a topical or less well known topic, research the hell out of it, spin some aspect to make it controversial, and write it all up in a fun “wiz bang” way. In general, they are fun reads and you learn a lot more about some semi-obscure aspect of earth or space science than you ever intended.

As in his other books, Ward has taken a theory most of us know, “the Earth as benevolent Gaia,” championed by James Lovelock, and put together a book full of data to suggest dear Mother Earth is not only not “good,” but that she actually is a serial killer. A serial killer who will knock us off as surely as those teenagers falling asleep in the “Nightmare on Elm Street” series.

Is it as fun to read as his other books? Maybe not, perhaps because it is much darker than the other books; with less humor, more chemistry, and a greater preference than usual for long and complex words. Be prepared, Ward’s books are for the “scientifically literate,” so keep a dictionary handy and be prepared for an onslaught of enumerated lists – the guy loves them, and they seem to be on every other page.

Dr. Ward’s books are usually ideal for motivated middle, high school, or undergraduate students. If a student has enjoyed *Under a Green Sky*, or other Ward books, they’ll probably like this one, but you should probably preview the book before recommending it to students. After all, the book is about how your Earth Mother will eventually kill you – plus just reading some of the chemistry can be a killer all by itself.

In a nutshell, what does he say in the book? His thesis (as in *Green Sky*) is that only one of the six mass extinctions we’ve documented on this planet was due to an extraterrestrial cause (i.e., an meteorite). For the majority, life poisoned itself just by living and producing

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# What's Up With All These Humboldt Squid in Tofino?

By Josie Osborne

**Humboldt squid (*Dosidicus gigas*)** are large, carnivorous cephalopods (a class of mollusks including octopus, squid and cuttlefish that are characterized by bilateral symmetry, a head, and modification of the mollusk foot into arms and tentacles) that were formerly found only off the coast of South and Central America. One of the largest of the approximately 300 species of squid in the world, it can grow to 2 m (6-7 ft) in length, and is known to be an aggressive feeder, spending the day at great depths



Humboldt squid stranded on Chesterman Beach, Tofino. Photo: Josie Osborne

and coming up to the ocean surface at night to feed on a wide range of fishes, crustaceans, and squids (including members of its own species!). In turn, Humboldt squid are preyed on by tuna, marlin, billfish, swordfish, sharks and toothed whales such as the sperm whale. Yet very little is known about the biology and ecology of these squid. How can they so easily move between cold, oxygen-poor deep water and warmer, oxygen rich surface water? How do they reproduce and spend the early weeks and months of their lives? We're not even sure how long this squid lives. Most scientists think they survive one or two years, like many other squid species, but some believe they may survive to four years.

One thing we do know about these squid is that they are more and more likely to be found in the northeast Pacific Ocean in recent years. Although Humboldt squid have occasionally been seen in waters off North America during the 20<sup>th</sup> century, they were not seen in large numbers until 1997-1998, when a strong El Niño event (resulting in oceanic current shifts and warmer waters) likely helped bring them northward to Central California. Interestingly – and alarmingly – the number of hake, a commercially important fish, dropped dramatically in the areas where the squid were found. The squid disappeared for a few years, perhaps because of their short lifecycle and inability to

reproduce in this new habitat, but during the milder El Niño event of 2002, large numbers of Humboldt squid appeared again in Central California and have remained there ever since. (And, in 2002 the hake populations also dropped again.)

While many scientists believe that El Niño events and general ocean warming associated with long term climate change are partially responsible for bringing the Humboldt squid farther north, they suspect that it's not the full story. Long-term overfishing of the Humboldt squid's predators, such as tuna and billfish, may also be contributing to the squid's range expansion not only because there are less predators to eat the squid (hence increased populations of squid), but also because top predators like tuna and Humboldt squid compete for the same prey. Less competition from tuna means more food for squid, lowering squid mortality rates.

Moving farther north, Humboldt squid have been sighted regularly off Washington, BC, and Alaska since 2003 – but not in any numbers until this past summer (2009). At first, recreational fishers off Tofino began reporting the odd catch and landing of Humboldt squid – as they and commercial fishermen had occasionally reported in recent years. Others pulled up mangled lures – likely attacked by an aggressively curious squid and its strong parrot-like beak. A search on Flickr.com even revealed a sunset photo of a Humboldt squid stranded on Chesterman Beach, Tofino in September 2008 (and an email conversation with the photographer confirmed that it was there one evening and gone the next morning). But on the evening of August 2<sup>nd</sup>, 2009 several hundred Humboldt squid washed ashore at Chesterman Beach and over the next



Humboldt squid in Monterey Bay, CA. Photo: NOAA

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# Member News

## OREGON Director's Report

### Joy Tally

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### Gearing up for Spring and Summer!

The flowers bursting forth with color, and the new plants springing from the ground are telling us its time for a change of the seasons. For some educators, this may mean looking at the light at the end of the tunnel that is the end of the school year, for others its time to gear up for a hectic spring and summer of activities. For everyone, it is a time to get excited about all that spring and summer have to offer. Oregon NAME hopes to leave you with plenty to think about and participate in this spring and summer.

Oregon NAME is hosting the 35<sup>th</sup> Annual Conference July 7 -10 in Florence, if you haven't already heard! The Call for Papers and Registration are already out, so make sure you're highlighting the best of your work through a concurrent session and saving a spot for yourself to be led outside, in a conference themed "No Educator Left Inside." There is an exciting array of field trips to emphasize the theme and help you bring your students outdoors. There will also be a healthy round of pre-conference workshops, exciting plenary speakers, great evening activities and NAME hospitality.

Again, I challenge every NAME member to recruit one new person for this year's conference, to ensure we spread the spirit of NAME and the message of watershed and ocean education. To find out more information and register for the conference head over to:

[www.pacname.org](http://www.pacname.org)

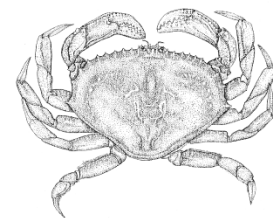
While a lot of Oregon NAMEs focus has been on planning for the conference, we have also been busy doing what we love, supporting marine and aquatic education. This year's Salmon bowl was an exciting one with the winning team, Neah-Kah-Nie A, waiting until the last question to be victorious. Gene Williamson, Oregon NAME member and Salmon Bowl veteran, was the final moderator and could not remember a closer final. The four teams in the finals were Neah-Kah-Nie A, SkyView, Neah-Kah-Nie B, Benson A. Neah-Kah-Nie A will be headed to St. Petersburg, FL to compete with teams from 25 other regions. Oregon NAME members left the competition with lots of enthusiasm and awe at all the high school com

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## WASHINGTON Director's Report

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### Hello WA NAMErs!

Hello! Its been a pleasant winter and spring in Washington, with a nice spread of events for WA region educators. In January, WA NAME participated in *Storming the Sound North*, a conference for environmental educators held in La Conner, WA. This gathering of teachers, informal educators, community members and volunteers was a great day of building community, sharing and fun.

As WA NAME does every year, we co-sponsored ORCA Bowl, Washington State's regional competition for the National Ocean Science Bowl, in February. NAME members were well represented amongst the volunteers supporting this exceptional event. Thank you ALL! A nail-biting final resulted in last second win by Friday Harbor Team A. Last year's winning team, ExCEL Academic League from Washougal took second place, losing by only two points! The students will be competing in the National Ocean Science Bowl held at the new Ocean Hall in the Smithsonian's National Museum of Natural History in Washington DC later this month

In March WA NAME held its 3rd annual sleepover at the Seattle Aquarium, and it was our most attended one yet, with over 90 NAME members, family and friends gathering for a great night exploring the aquarium, assembling an orca skeleton, dipping their fingers in the tide pools and serenading the fish with silly songs. Keep in mind we'll be having another sleepover next spring, and we'd love for you to join us!

We also participated in *Storming the Sound Central* on March 26<sup>th</sup> in Seattle held at the Seattle Art Museum. The event was well attended, enthusiasm was high and the workshops and discussions engaging and inspiring. *Storming the Sound South* will take place this fall. Stay tuned!

We are putting together a WA NAME South Sound kayak paddle for this summer. Information will be sent out via NAME Flashmail. If you are interested in this, or in planning any other events for WA NAME, you can always reach me at 206-280-9850 or at asprenger@apl.washington.edu.

**READ *Scuttlebutt* ONLINE!**  
[www.pacname.org](http://www.pacname.org)



### The Ocean Project:

## Ocean Conservation, Awareness and Action

This past year, *The Ocean Project* completed a comprehensive public opinion survey of public environmental concerns—the findings could help you better connect to your audiences. The national survey received responses from 22,000 American adults. The results provide useful insights into how Americans think about environmental issues, where they get their information, and what they expect of aquariums, zoos, and museums.

#### Summary of Key Findings

- Little progress has been made in the last 10 years toward increasing either the literacy of the American public about the ocean or awareness and concern about environmental issues that threaten our ocean.
- The environmental issue of most concern to the public is climate change.
- Americans express awe, concern and care for ocean conservation issues, but do not connect the ocean with climate change.
- Youth and people, aged 12-17, know and care more about ocean and other environmental issues, and they are more willing to act than adults; furthermore, they influence the opinions of adults, who tend to view their children as better informed on conservation issues.
- Americans in households where English is not the primary language express significantly higher levels of concern about ocean issues and are more willing to modify their behavior than Americans in households where English is the primary language.
- In a shift from views expressed in a 1999 survey, Americans now believe that their individual actions can have a positive effect on protecting the environment and improving the health of the ocean. They are ready to act but are not sure what to do.
- The public is looking to aquariums, zoos and museums as trusted authorities on environmental issues, in addition to providing them with ways to help solve these issues.
- The public agrees that individual choices people make about what seafood to eat impact the health of the ocean.
- Americans are willing to change their seafood eating habits to conserve the ocean and protect endangered species. They are also willing to pay more in restaurants or markets for seafood that

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**The Ocean Project**

## Wit and Wisdom Countercurrents

By Alan Rammer

**About this column:** During a lighter moment at a recent NAME board meeting, I was sharing some memorable moments with children from my 36-year career with the Washington Department of Fish and Wildlife. Others had equally wonderful stories. We quickly realized that all of us must have cute and heartfelt stories that would be fun to share with the membership at large from our own respective interactions with the various groups we work with.

Some of us, unfortunately, are old enough to remember Art Linkletter's TV program entitled, "Kids Say the Darndest Things," which was a huge hit way back when. A light bulb went off, and we realized an aquatic version might add a lighter fare to Scuttlebutt. I was asked to write the first article. I thought of many stories that would garner a chuckle, but I have decided to write this first column with a moving story that I am sure each of you will find ultimately brings all of us together as a NAME family.

*I hope each of you will consider writing a short article for subsequent Scuttlebutt issues about something light-hearted, and/or thought-provoking incident to share and remind us all why we love what we do.*

-Alan

### What are they thinking while you're talking?

Many years ago, I was visiting a group of elementary school children in Tacoma, Washington. I had visited this particular school many times over the years with marine science enrichment programs for the 2<sup>nd</sup> graders. One little girl raised her hand at the end of my program, and, very intently, asked me the following question, which had never been asked before or since, --- "Why do you care so much about the ocean"? It kind of caught me off guard coming from such a small child, but I could see how intent the young lady was and quickly answered. "I want you to have the same ocean experiences I had when I was your age, and I am very concerned that those wonderful experiences were not going to be there for you and your classmates in the future." Just as quickly, she answered back, "Thank you for caring about me".

To this day I remember exactly where she was seated in the classroom, the style of her hair and her dress pattern. I realized on that day, that this is why I had the job I did and why it meant so much to me ---- as I am sure it does to each of you in your professional and personal life.

few days several hundred more were found on Tofino beaches. In late September 2009, yet another stranding event occurred, this time over a much larger geographic range – from Pachena Bay (near Bamfield) through the Long Beach Unit of Pacific Rim National Park Reserve, the northwest coast of Vancouver Island to the BC Central Coast (Rivers Inlet and Hakai Pass). In October, several dozen were stranded in Port Hardy – the first evidence that the squid had entered the inland side of Vancouver Island. In late October 2009, a squid was found on Quadra Island, off Campbell River. Before you ask – no one knows exactly why apparently healthy Humboldt squid would strand, but they do regularly strand in their 'original' range of Mexico southward to Chile.

While significant changes in marine food webs, combined with changing ocean temperatures and currents, may explain why Humboldt squid are now more common in BC and Washington waters, we don't know whether they are here to stay, nor whether they will, in turn, have a profound effect on our own marine food webs. California biologists are clear that "a significant change has taken place in the composition and structure of the pelagic community off central California." Canadian biologists are now examining what Humboldt squid caught in BC are preying on. Squid stranded in Tofino appeared to be eating sardines, herring and mackerel, and Fisheries and Oceans biologists are looking at the prey of Humboldt squid caught just offshore – and whether their prey is similar to prey in Central California (hake, krill, lanternfish, anchovy and rockfish). It seems likely that Humboldt squid would prey on hake, even if hake has not yet been found in squid stomachs. It's unknown whether they prey on salmon. But don't forget that squid too are preyed upon – will orcas eat them? Sharks? A Tofino photographer even found a black bear scavenging on Humboldt squid carcasses that had washed ashore in Ucluelet Harbour and perhaps unknowingly documented the very first encounter between these two species.

We are not certain what will happen if the Humboldt squid are here to stay, but we do know that with the their arrival in local waters and the stranding of hundreds of squid on our beaches during the summer of 2009, we can no longer deny that the oceans are changing.

1 Zeidberg, LD and BH Robison. 2008. Reply to Watters et al.: Range expansion of the Humboldt squid. *PNAS* Jan 22, 2008. Vol. 105 no. 3. E6 <http://www.pnas.org/content/105/3/E6.full.pdf> [Accessed October 28, 2009]

*Josie Osborne is a marine biologist, naturalist and Executive Director of the Rain-coast Education Society. You can reach her at (250) 725-2560 or info [at] raincoasteducation [dot] org to report your Humboldt squid sightings, send photos, or to ask questions!*

## Professional Development for Teachers

# Approaches to Inquiry

## *Shifting Classrooms Toward Inquiry Learning*



**For:** Teachers, Grades 5-10

**Where:** Port Townsend Marine Science Center at Fort Worden State Park

**When:** August 17-21, 2010 plus follow-up meeting, date TBA

**Cost:** \$200. Meals and lodging provided. Credit/ clock hour options available. Additional costs will be met by workshop sponsors.

**Based on methods developed at the Exploratorium's Institute for Inquiry & Programs at the Port Townsend Marine Science Center**

- Students experience the challenge, creativity and personal reward of finding answers to their own questions
- Students develop deeper understanding of science content
- Students' science process skills strengthened
- Students motivated to "own" their own learning

Inquiry is an important content topic in science education. But inquiry is also a way of teaching and learning. In this 4-day training, teachers explore the nature of inquiry and its potential to boost students' understanding of science content and their self-motivation as learners. This workshop will combine methods and materials developed at the Exploratorium's Institute for Inquiry with activities developed at the Port Townsend Marine Science Center. Learning sessions take place in classrooms, the marine lab and the natural environment.



**For more information about his or other PTMSC programs, please call 360-385-5582 or 800-566-3932.**

*The inquiry class was AWESOME! I've been puzzled by this teaching method called inquiry for a long time, because no one has done a good job teaching it to me yet, and I've attended plenty of classes on it. I will recommend this class to everyone I know.*

---2009 workshop participant





## Member News continued

NAME—Oregon

Continued from page 6

petitors. Keep this in mind for next year and you can be part of the excitement as well.

Oregon NAME also partnered with the Oregon Shores Conservation Coalition to host a one day "Sharing the Coast" conference at Lane Community College in Florence. Over 45 participants from both organizations came to hear the latest information on interpretation, coastal geology and hazards, tidepools, invasive species, sea and shore birds, alternative energy and climate change. The day was filled with great presentations from regional experts and included afternoon breakout sessions to explore topics in more depth. The day also served as a teaser for the NAME conference in July as well as Oregon Shores annual conference in May. Interest and attendance have encouraged us to ponder how to make this an annual event. Special thanks goes to Fawn Custer for her enthusiasm and talent at organizing such a well run and engaging event.

NAME is also getting ready for annual elections, so if you're interested in taking a more active role in Oregon NAME or NAME in general, please let me know.

**July 7-10, 2010 in Florence.** The theme, "No Educator Left Inside: Exploring Ocean & Watershed." We have a



Photo credit: Curt Peters

great committee filled with a mix of conference planning veterans and novices. Our host site will be the Events Center in Florence with a BBQ site already chosen at Honeyman State Park to give us plenty of time to relax and have fun. The planning committee is working hard to develop a slate of engaging pre-conference workshops, exciting field experiences and innovative speakers.

There are four exciting conference themes planned that should meet the needs for all involved in marine and aquatic programs:

- **Effective Learning Outside:** Applying what we know to get our students and audiences excited about the World of Water—while standing in it!
- **The Changing Ocean:** Our ocean is changing—often faster than we'd like. What is going on there, what do we expect next, and what do we do about it?
- **Nearshore Habitats—From Watersheds to Beaches and Dunes to Ocean Depths:** Ideas, curricula, ma-

terials, resources.

- **Discovery of Place:** The role of place-based education in changing behaviors and attitudes about our home. NAME – Oregon has reserved several yurts at Honeyman State Park. If you would like to camp at either a state park or one of the other local campgrounds, those spots will all be full in July, so make reservations early.

I hope to see you in Florence!

- Joy Tally

## **Applications for Spring NAME Mini Grants are due June 1**

At least two grants for up to \$250 are available for NAME members who have a project or class that promotes learning about and conservation of our water resources.

The simple application is available on our website at:

**[www.pacname.org/minigrants.html](http://www.pacname.org/minigrants.html)**

If you have any questions, you may contact Debbie Smith, NAME Mini-grant chair at:

[water\\_star@hotmail.com](mailto:water_star@hotmail.com) or 360-754-4148.

*Please note that, if you send this announcement out to other groups, the grants are available to NAME members only.*



**facebook**

## **NAME is on facebook**

You can now join NAME's group on facebook. As a member of this group, you will receive updates on events, photos, links, videos and other NAME-related information. You will also be able to join discussions on marine and fresh water topics.

This site is an "open group," which means anyone can join. Simply search for "northwest aquatic & marine educators" to find out page and join. Don't forget to use the "&" sign rather than "and".

The site is administered by Debbie Smith. Contact Debbie at [water\\_star@hotmail.com](mailto:water_star@hotmail.com) or 360-754-4148.

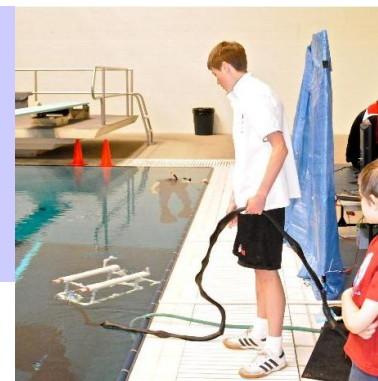
carbon dioxide and other chemicals - the resultant high and low temperatures sent most everyone back to "Start" without collecting \$200 on the way.

The mechanics of the book are straight forward: The author convincingly lays out his hypothesis in the first 8 chapters. Chapter 9 is a summation (its title) presented in four enumerated points of the previous chapters (so you might want to start here and then reread 1-8). The two final chapters (10 and 11) are on the implications of the hypothesis (death to all) with a interesting final chapter entitled "What can be done?" Sadly, the answer seems to be "not much." Ward is a paleontologist, not an engineer, and the engineering section of the chapter (which is less than a page long) seems fairly weak and focuses primarily on giant reverse space blanket over the ice caps - to reflect heat back into space. I'm not an engineer either, so maybe I'm missing something, but it does seem that a co-author who is an engineer could have provided some alternative scenarios.

Still I enjoyed the book, maybe not as much as *Under a Green Sky* subtitled *Global Warming, the Mass Extinctions of the Past, and What They Can Tell Us About Our Future*, but this is a nice follow-up, not overly long, and well worth its reasonable price. Is it true – is Earth a Medea or a Gaia? To a large extent, who cares -- both Ward and Lovelock (see *The Vanishing Face of Gaia: A Final Warning: Enjoy It While You Can* by J. Lovelock) suggest that regardless of the model for earth, things are going to hell in a hand basket. So, unless we get our act together, it is only a question of how, not what.

Along with the *Medea Hypothesis* book, I'd strongly suggest reading *What We Know about Climate Change* by Kerry Emanuel, an important little book that is a nice companion to Ward's book, and that can almost be read at one sitting (if you like to stay up and read very late into the night).

**THE MARINE TECHNOLOGY SOCIETY**  
and the  
**MARINE ADVANCED TECHNOLOGY EDUCATION CENTER**  
**ANNOUNCE the PACIFIC NORTHWEST REGIONAL**  
**ROV CHALLENGE WINNERS**



Scout Class

- 1st Place - "AquaGon 5" - South Whidbey Elementary School - Langley, WA
- 2nd Place - "Aqua Navigatio" - Haller Middle School - Arlington, WA
- 3rd Place - "AMNO ROV Club" - Lowell/Thurgood Marshall Elementary Schools - Seattle, WA

Ranger Class

- 1st Place - "Team Orca" - Sea-Tech 4-H Club - Mt. Vernon, WA
- 2nd Place - "APIA" - Whidbey Isl. Acad. & Skagit Valley CC & S.Whidbey High School - Langley, WA
- 3rd Place - "Team Sailfish" - Sea-Tech 4-H Club - Mt. Vernon, WA

- Best Spirit, Ranger Class - "Pirates" - Meek Pro Tech High School - Portland, OR
- Best Spirit, Scout Class - "Goodman#4" - Goodman Middle School - Gig Harbor, WA
- Steady as She Goes - "Pirates" - Meek Pro Tech High School - Portland, OR  
(for five consecutive years of participation)

We also had two Explorer Class vehicles qualify to compete in Hawaii at the International event: Team Eclipse - Sea-Tech 4-H Club - Mt. Vernon, WA and BCIT ROV - British Columbia Institute of Technology, Burnaby, BC, Canada



**Travel Opportunity for Secondary Teachers**

**Toyota International Teacher Program**



The Toyota International Teacher Program, administered by the Institute of International Education, is offering U.S. secondary school educators a unique opportunity to travel to the Galapagos Islands from November 20 through December 4, 2010. The program aims to advance environmental stewardship and global connectedness in U.S. schools and communities through creative, interdisciplinary and solution-based teaching methods. Full-time grade 6-12 teachers and teacher-librarians in the U.S. who have at least three years of teaching experience are encouraged to apply. While in the country, participants will meet with biologists and conservationists, explore the natural wonders of the Galapagos Islands, and work on interdisciplinary lesson plans together with educators from the Galapagos Islands. The application deadline is **May 26, 2010**. Visit the program's website to learn more about this opportunity and submit an online application.

<http://www.toyota4education.com>

## Science in the News

### Oregon, Washington coasts see bigger waves



Waves crash on a beach near Depoe Bay on the Oregon Coast.  
Photo Credit: Erica Harris, Oregon State University)

A recent study supported by the Sectoral Application Research Program, a part of the Climate Program Office at the National Oceanic and Atmospheric Administration, shows a major average increase of nearly four inches per year in maximum ocean wave heights off the Pacific Northwest since the mid-1970's. These new findings are forcing scientists to re-evaluate how high a "100-year event" might be; raising special concerns for flooding, coastal erosion and structural damage.

The new assessment concludes that the highest waves – typically occurring in December and January – may be as much as 46 feet. Summer waves are also significantly higher. The largest wave height increases, scientists say, have occurred off the Washington coast and northern Oregon, with less increase in southern Oregon and nothing of significance south of central California. The study also noted that similar increases in wave heights have occurred in the North Atlantic Ocean, as well as the seasonal total power generated by hurricanes.

The cause of these dramatically higher waves is not completely certain, but "likely due to Earth's changing climate.

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*Marine Fisheries Curriculum*

*Continued from page 4*

management of Oregon's newly designated marine reserves. It will also be used to train 150 at-sea fisheries monitors, who will be collecting fisheries data on domestic fishing vessels from New York to Maine for the National Marine Fisheries Service.

These modules as well as other NCSR curriculum products can be downloaded from the Center's website: [www.ncsr.org/regsurvey.html](http://www.ncsr.org/regsurvey.html). They also can be ordered in hardcopy including a CD through the website. Descriptions of these and other NCSR materials can be viewed at: [www.ncsr.org/materials/index.html](http://www.ncsr.org/materials/index.html). All NCSR products are available free-of-charge.

## Acting in time...

### As though the oceans mattered

By Vicki Osis

In 2005, scientists studying ocean water collected by a NOAA research cruise in the Pacific were stunned to find that the oceans acidity had increased. The following year research vessels world-wide repeated the sampling and found all oceans had experienced a 30% increase in acidity (A .1 decrease on the pH scale for which lower numbers are more acidic.)

For more than a century, billions of tons of CO<sub>2</sub> have been emitted into the atmosphere through burning of fossil fuels, cement manufacturing and land use changes. Atmospheric concentration of CO<sub>2</sub> is now higher than experienced on Earth for the last 800,000 years.

Oceans help regulate the amount of CO<sub>2</sub> in the atmosphere by dissolving large quantities in their waters. It is estimated that the oceans have absorbed up to 27-34% of the CO<sub>2</sub> produced by humankind. This uptake has moderated the rise of CO<sub>2</sub> in the atmosphere, thereby reducing the extent of greenhouse warming and climate change caused by human activities. But it has come at the price of a dramatic change to ocean chemistry.

Ocean floor core samples provide a historic record of ocean chemistry. Acidity events have happened in the past, but the current event is occurring faster than anything geologists can find in the fossil record over the past 65 million years. They estimate it is taking place at ten times the rate that preceded the mass extinction from acidification 55 million years ago. If we continue with current CO<sub>2</sub> emissions, there could be a change of ~0.4 units change in pH by 2100. The speed and size of this change increases the difficulty for organisms to adapt or colonize other areas of the oceans.

Of greatest concern is the impact on marine organisms especially those that are calcifying species as the acid erodes away the shells. Researchers have already found corals, coccolithophores, coralline algae, foraminifera, pteropods and shellfish are adversely affected by acidity. Coralline algae, the glue that holds many coral reefs together, disintegrates in the increasingly acidic waters and reefs may fall apart. Coccolithophores, which are planktonic algae, produce blooms so large they are visible from space. Research shows they will experience decreased rates of calcification up to 16% at 2x CO<sub>2</sub> levels, while copepods, which make up a large proportion of the zooplankton, have reduced survival in their early life stages. Planktonic pteropods, a favored food of larval fish (including NW salmon) have been found to be highly susceptible to dissolution.

NOAA researchers predict that the Pacific will be more affected by the acidity than the Atlantic. Of importance

*Continued on page 13*



## NAME Board Meeting Highlights from Padilla Bay

The NAME Board held its Mid-winter Meeting February 27 at Padilla Bay NERR Interpretive Center. Padilla Bay's central location, natural splendor, and great hospitality make it a great choice for conducting NAME's mid-year business. Highlights follow. A complete copy of the Board Meeting Minutes will be posted on the NAME website. The highlights include...

**FINANCIAL:** Rob Coats reported that NAME was in good shape. Our Life Membership campaign was slowly working, helping to fund our website work, and proceeds from the Annual Conference at Vancouver Aquarium were strong.

**MEMBERSHIP:** Our new Membership Chair, Gretchen Glaub, reported membership slowly rising. Gretchen and former Chair Orlay Johnson are streamlining the membership process and cleaning up the membership records, as well as concentrating on improved renewal strategies. We discussed changing the membership year so that renewals would happen once or twice each year. This may be considered depending on the need after we fully implement our new website.

**MINI-GRANTS:** Debbie Smith reported that the committee reviewed 14 applications this time around, a record! For the next cycle, applications are due May 15.

**AWARDS:** Award nominations are now being accepted for 2010, to be awarded July 9 at the Annual Conference. Visit [www.pacname.org](http://www.pacname.org) for an application, or contact Debbie Smith, Mini-grants Chair, 360-754-4148 or [dsmith@ci.tumwater.wa.us](mailto:dsmith@ci.tumwater.wa.us).

**NOMINATIONS:** Nominations are now open for NAME officers and board positions. Those interested please contact Immediate Past-president Linda Maxson at [ljmaxson@gmail.com](mailto:ljmaxson@gmail.com) or by calling 206-300-1636. NAME-WA is looking for a Co-director to work with Amy Sprenger, and NAME-AK is seeking a new Director. If interested, contact Amy at [asprenger@apl.washington.edu](mailto:asprenger@apl.washington.edu) or 206-543-0061, or Nora at [nora.deans@nprb.org](mailto:nora.deans@nprb.org) or 907-644-6707.

**DUES & COSTS:** NAME's sustainability at the present dues rate (\$18/yr) was discussed. NAME's operating costs now are roughly supported half by membership dues and half by annual conference proceeds, including the auction. Given the need to hire a webmaster in a few months, the need to purchase event insurance for NAME activities, and upcoming costs such as new brochures, it was proposed and carried to bring a dues increase of \$7/yr, or a total of \$25/year, to the membership for approval at the annual conference this summer. Additionally, a provision will be included in the proposal to keep the \$18 rate for limited income members, including students and seniors. Finally, a committee was formed to examine the institutional membership rate and add that as part of the dues increase proposal.

**WEBSITE DEVELOPMENT:** Our contracted web developer, Jennifer Magnusson, gave the Board an update on progress. All were very impressed and delighted. The Board voted to add "members only pages" to the website work, allowing the site to contain special features for members.

**EVENT INSURANCE:** The Board approved a proposal to purchase event insurance of all NAME events, including the annual conference, for all states the province. This is the first time such a policy has been purchased. As part of this decision, NAME will use participant waivers to further provide liability protection for all events, as needed.

**BYLAWS CHANGES:** The Board considered the changes needed in the Bylaws as presented by Debbie Smith. The changes were approved and will be voted on by the membership at the Annual Conference in Oregon this summer. Copies of the changes will be available on the NAME website for inspection.

**UPCOMING CONFERENCES:** NAME 2010 - July 7-10, Florence, OR. "No Educator Left Inside: Exploring Ocean & Watershed." NAME 2011 will be held in Washington. NAME 2012 will be held in Anchorage, AK (hosting the National Marine Educators Association Annual Conference).

*Submitted by Sean Hastie*



Deb MacArthur, Amy Sprenger, Gretchen Glaub, Orlay Johnson, Eriko Arai, Sean Hastie, Theda Hastie, Rob Coates, Nora Deans, Joy Tally, Anne Stewart, Debbie Smith, Alan Rammer, Linda Maxson, Anne Nelson  
*Photo Credit: Glen Alexander*

to shell construction is the amount of CaCo<sub>3</sub> that occurs in two common forms: aragonite and calcite. Aragonite's availability to shell-building creatures depends on its saturation horizon. Aragonite is shallowest in the northeastern Pacific Ocean, only 100 to 300 m from the ocean surface, and its saturation zone is displaced by the transport of under-saturated waters onto the continental shelf during periods of upwelling. Without this calcium source, building calcium shells is problematic. Already problems are occurring in N.W oyster hatcheries during periods of upwelling. The larval oysters cannot survive without the materials to build their shells.

The only way of reducing the impact of ocean acidification is an *urgent and substantial reduction of CO<sub>2</sub> emissions*. That is the bottom line. It will take extraordinary courage and cooperation from our leaders to act in time. But they must.

**References:**

- NOAA PMEL Ocean Acidification <http://www.pmel.noaa.gov/co2/OA/index.html>
- Acidity Page "greatest in last 65,000 years" <http://tinyurl.com/yh5ad34>
- The Acid Test Video: <http://tinyurl.com/ycb8wlb>

has been certified as healthy and sustainable.

- The for-profit corporate world is out communicating conservation-oriented organizations about ocean and environmental issues by a wide margin, and most of this communication is occurring on the Internet.
- The public, especially younger generations, prefers to get information about environmental issues from the Internet.

\*\* Full survey results, including the report "America, the Ocean, and Climate Change," and the latest tracking results and analyses can be found at <http://www.TheOceanProject.org>.

*The Ocean Project advances ocean conservation in partnership with zoos, aquariums, and museums (ZAMs).*

**A New LOOK!!!**

*The NAME Website has had a makeover!*

**[www.pacname.org](http://www.pacname.org)**

**CALL FOR PROPOSALS**

**No Educator Left Inside:  
Exploring Ocean and Watershed**

**NAME CONFERENCE**

July 7-10, 2010

Held on the Central Oregon Coast at Florence, the conference will bring together educators, researchers, students and resource professionals from Oregon, Washington, British Columbia and Alaska to meet, learn, share, and socialize in a beautiful natural setting. There are four exciting conference themes planned that should meet the needs for all involved in marine and aquatic programs.

**Conference Themes:**

Effective Learning Outside: Applying what we know to get our students and audiences excited about the World of Water – while standing in it!

The Changing Ocean: Our ocean is changing – often faster than we'd like. What is going on there, what do we expect next, and what do we do about it?

Nearshore Habitats – From Watersheds to Beaches and Dunes to Ocean Depths: Ideas, curricula, materials and resources.

Discovery of Place: The role of place-based education in changing behaviors and attitudes about our home.

**Current Session Dates/ Times:**

- Friday, July 9: 9:45-11:45am and 2:00-5:00pm
- Saturday, July 10: 9:15am-12:15pm

All concurrent sessions are 50 minutes in length with 10 minutes between sessions.

**For proposal forms, information about the conference and registration information, please visit [www.pacname.org](http://www.pacname.org)**

**Proposals are due by May 24 via e-mail or regular mail to:**

Sean Hastie [hastiestuff@mac.com](mailto:hastiestuff@mac.com)  
4615 Bradford Loop, SE  
Salem, OR 97302

For questions call: (503) 585-3525  
Cell (503) 708-5081



*Presenters will be expected to register for the conference to participate in other conference sessions, functions or events.*

## Other Views: Warming, weather and an oscillation

WILMINGTON -- I can only imagine what the climate change detractors are going to say following the recent Mid-Atlantic winter storms. Some may say this season's snow and cold provide proof that a warming planet is impossible. Actually, the truth behind the winter of 2009-10 is far more interesting than climate change alone.

The severe weather gripping the Mid-Atlantic states is just that; weather, influenced by climate conditions traced back to late 2009 and still in play, including shifted atmospheric pressure systems from as far away as the Arctic polar region and the Eastern Pacific Ocean. Much of the bitterly cold weather the lower 48 states have experienced this year is actually attributed to weakened low pressure over the Arctic region.

Called the Arctic Oscillation, the normally strong low pressure over the Arctic during winter has diminished in strength this year, allowing cold air to drop down from the north, while warm air slipped northward; so much warm air that this year may go down as one of the warmest on record for northern regions, including Vancouver, British Columbia, host for the 2010 Winter Olympics. It is no small irony that organizers have had to truck-in snow for this winter event. But there may be more to this story than just a weak Arctic Oscillation. The warm southern air slipping northward into Canada may have been getting a helping push from another climate phenomena originating in the eastern Pacific Ocean thousands of miles to the west, known as El Nino.

El Nino is a cyclic phenomenon in the Eastern Pacific that circulates warm water into offshore cold water regions from Chile in South America to California and the Pacific Northwest coasts of North America. This year, El Nino-influenced weather systems have been streaming eastward across the southern United States, sweeping warm, moist air from the Gulf of Mexico and bumping it into cold Arctic air from the north. This clashing of titanic atmospheric forces produces heavy weather, including rain events. We've had so much rain in some Southern states that two years of drought has given way to flooding in coastal areas.

### U.S. Winter Outlook Precipitation

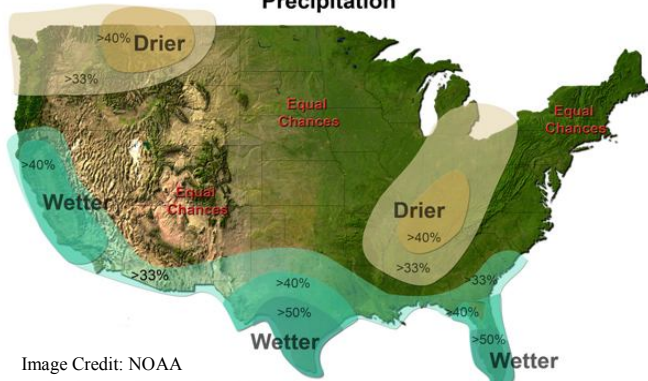


Image Credit: NOAA

In the case of the February snow storms that hit Washington, D.C., this year, a dynamic climate blended Earth's respiratory and circulatory systems and the result was congestion, in the form of winds, clouds, rain, ice and snow. And we should not be terribly surprised by this turn of events. After all, the Northern Hemisphere is still in the throes of winter, in spite

of the fact that the Arctic is warmer than it should be. This is not a good thing for already melting ice sheets, as Greenland can attest.

Global climate change in the form of warming is not a belief, a theory, or position of faith; global warming is an observed phenomena proved with over a hundred years of data recorded from around the globe, first by 19th century mariners, and now today's atmospheric research centers and climatologists.

Proof of climate change is evident by more than thermometers; melting glaciers are an infamous icon for warming. And now bird scientists studying decades of data collected during the National Audubon Society's Christmas Bird Count, the world's longest-running citizen science project, have shown that the winter ranges of many wild birds have shifted northward in response to warmer winters.



Scientists are studying shifting bird populations, melting glaciers and more subtle changes in our collective environments to help build technology-based models that will enable us to respond and adapt to a changing globe. Their work is now being used by our military leaders, who recognize the reality of global warming and understand climate and energy are decisive factors for national security. The message here is that everyone needs to understand the interconnections between climate-change consequences, energy, economics and national security.

The lesson to be learned from the winter of 2010 is that one season of weather does not a climate make. Weather is a condition of the here and now, while climate is a region's average weather over several years. While long-term consequences of climate change are anticipated, including global warming, many short-term consequences, as we have seen and felt this year, will happen as a result of cascading non-linear events that are rarely precisely predictable. These include, as ever, the weather.

*Reprinted with permission from Andy Wood, Education Director, Audubon North Carolina & NMEA Member*



## Global Climate Current Status & Impacts

### *on-line summer courses offered*

Two on-line courses of interest to educators will be offered during Summer Session at Oregon State University. These workshops will explore ecological concepts related to climate change. Topics include the changes that are occurring to the earth's atmospheric gases and their implications for changing the world climate systems as well as current impacts on various bioregions of the world. Teaching activities and resources will be provided and discussed. Both courses will offer one credit as follows:

**Global Climate Change Current Status and Impacts**, July 19 – August 13

**FW 408 Upper Division** - applies to a degree (soon to be posted on OSU website)

Tuition: \$326 (\$226 tuition = \$25 non-degree admission + \$75 E Campus Fee)

**FW 808 - Professional development credit** <http://tinyurl.com/ybps4zs>

Tuition: \$150 (\$50 tuition + \$25 non-degree admission fee + \$75 E Campus Fee)

For more information on OSU summer term courses, visit <http://tinyurl.com/yl6ndh4>

**OSU**  
**SUMMER**  
**SESSION**  
**2010**

## SEATTLE

**Who?** Youth entering 7th and 8th grades in the fall of 2010.

**When?**

Session I – July 12-16, 2010, 9 a.m.—4 p.m.

Session II – July 19-23, 2010, 9 a.m.—4 p.m.

*Note:* Camp sessions I and II are identical, so please register your child for one week only.

**Where?** NOAA's Sand Point Facility on Lake Washington, 7600 Sand Point Way NE, Seattle, Washington.

**Cost?** \$225 – Scholarships for half of the registration cost (a value of \$112.50) are available.

**How?** Registration is open NOW and available at: <http://www.wsg.washington.edu/education/events/noaa.html>

**What if I have attended NOAA Science Camp before?** Registration is permitted, but be aware that the camp is relatively the same from year to year and not intended for returning campers.

To register and for more information, email [noaacamp@u.washington.edu](mailto:noaacamp@u.washington.edu)



## A Good and Prudent Time to Join as a LIFETIME Member

NAME is in the middle of a campaign to enlist twenty life members, and it has been going well. To date, we have twelve signed up, with eight more to go at the \$250 price.

The Board picked twenty memberships because we needed to raise \$5000 to get our new website built and functioning. That process is underway and is going very well also. When twenty life memberships have been received, the Board will re-evaluate that price. Since then, the Board has prepared a proposal to increase annual dues to \$25 from \$18. This was needed to help pay for event insurance, for our activities and fund a webmaster for the new web site.

So, if you get right on it, you can still join as a life member for \$250, a real bargain considering it is likely we will be raising dues at our membership meeting in Florence. Visit [www.pacname.org](http://www.pacname.org) for a membership form or email Gretchen Glaub, Membership Chair, at [Gretchen.glaub@gmail.com](mailto:Gretchen.glaub@gmail.com) if you would like a life membership form (But don't wait too long!)

Sean "Bill" Hastie  
President

# Critter Corner

By Gordon Green

## Seed Shrimp

Seed shrimp or ostracods are small crustaceans that abound in marine and freshwater habitats. Approximately 8,000 living species are known and many more have been found in the fossil record. They are an important part of the benthic fauna in freshwater habitats, occurring abundantly in temporary and permanent water bodies from small vernal puddles to large lakes.

An ostracod's body is enclosed in a bivalved shell that is hinged along the dorsal margin. The shell can be tightly closed by muscles that run through the body of the ostracod and attach to the inside of each valve of the shell. When closed many species resemble tiny clams. When the shell is open, appendages of locomotion and feeding are extended from the ventral and anterior margins. Most freshwater species are between 0.5 and 2 mm in length.

Some species swim in the water column, but most are benthic, living on or near the bottom, crawling over or burrowing into the sediment. Most species are herbivores or detritivores, feeding on diatoms, other algae and organic detritus. Carnivorous tendencies have been observed in a few species and many commensal forms are known, living primarily on the gills of larger crustaceans such as crayfish. Locomotion is accomplished primarily by using the first and second antennae. Species capable of swimming have long plumose setae on their antennae, which are used like oars when swimming.



*Isocypris quadrisetosa*



*Cypricercus*

Most freshwater ostracods are found as adults only at certain times of the year. Species living in temporary habitats such as vernal ponds have short life spans and are generally found only in the spring when rain fills otherwise dry depressions. Before these habitats dry up in the summer ostracodes lay desiccation-resistant eggs that can survive the summer drought. When the wind blows some of these eggs will be blown across the landscape and settle in other depressions – hatching the next time the depression fills with water. Many species are found only in temporary ponds and puddles. During the time I studied ostracods in BC there was one species that I collected only twice, both times in water-filled tire ruts on dirt roads - a very temporary habitat.

Species inhabiting permanent water bodies tend to have longer life spans usually beginning in the spring and extending for various lengths of time through the summer. Where conditions allow, some species survive through the winter.

Ostracods are extremely abundant in freshwater and marine habitats. In some habitats one square metre of lake bottom can contain thousands of ostracodes from a number of different species. Due to this abundance, ostracodes are an important part of the food chain, feeding on algae and decaying organic matter and providing a food source for larger animals.



Dear Amy,

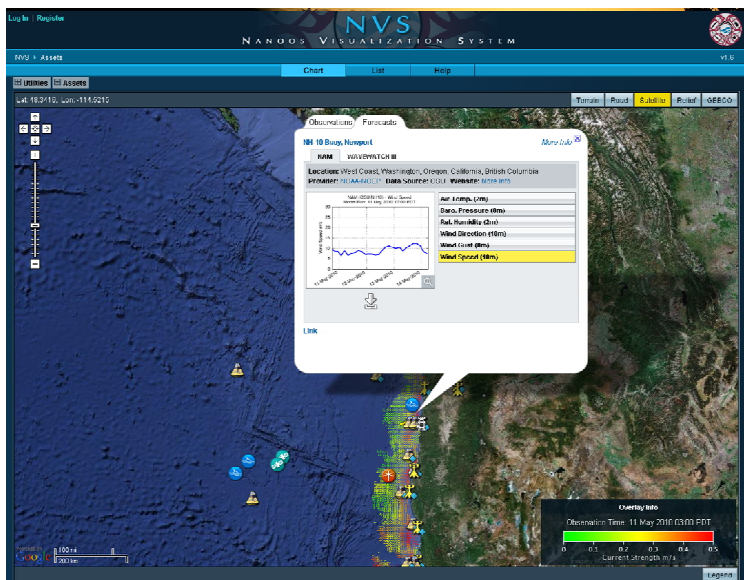
My name is Max Maliska and I am the head coach of the Orca Bowl winning team from Friday Harbor High School. We had the great chance of competing at the NOSB national competition last week and it was a lot of fun.

I just wanted to thank you and NAME for helping to offset the costs for our shirts for our team. We actually have had some shirts made and I have attached a picture of Hannah, Nick Stewart and Matt at the finals competing (heavy in thought) in these shirts.

Thanks,

Max, PhD. Candidate  
Department of Biology, University of Washington





*Is it upwelling off the coast of Oregon?*

*What are the oxygen levels in Hood Canal?*

*How does the salinity in deep marine waters differ from shallow marine waters?*

With a new data visualization system from NANOOS (Northwest Association of Networked Ocean Observing Systems) anyone with web access can answer these and many other questions about current ocean conditions in the Pacific Northwest.

Available at the NANOOS web portal, [www.nanoos.org](http://www.nanoos.org), NVS users can select locations on the Google map-based interface to get ocean observing data that includes real-time and near real-time observations from buoys, shore stations,

and coastal land based stations. Surface currents, forecast data for wind and wave information, satellite data on sea surface temperature and ocean color and ship-board cruise data. "NVS brings consistency and integration of data across the NANOOS geographical region," says Emilio Mayorga, NANOOS' NVS data manager. According to Troy Tanner, designer of the NANOOS web delivery system, "NVS is a tool that makes data access easier for researchers and the public. We're trying build innovative ways to compare, compile, and download data."

NANOOS is one of a few ocean observing associations in the NAME region.

In Alaska, AOS the Alaska Ocean Observing System, is integrating data from Alaskan waters, AOS can be found at [www.aos.org](http://www.aos.org).

In British Columbia, there are two programs providing data on British Columbia marine water conditions, NEPTUNE Canada ([http:// www.neptunecanada.ca/](http://www.neptunecanada.ca/)) and VENUS ([http:// www.venus.uvic.ca/](http://www.venus.uvic.ca/))



## ***Mini-Grants Awarded to NW Teachers!!!***

**Fall 2009 was a record round for NAME Mini-grants.** The round had the largest ever number of applicants (14), the largest number of grants funded (3), and the first recipient on the "dry" side of the Cascades. The quality of the applications was high, and the Mini-grant subcommittee had its work cut out for them as they ranked the competitive proposals.

Eastern Washington was represented for the first time in the Mini-grant awards. Methea Sapp of Spokane Community College was awarded a \$250 grant to work with local high school seniors on their culminating senior project in marine science. The students were provided with access to Spokane Community College's 180 gallon marine invertebrate aquarium. The mini-grant paid for materials and equipment to perform laboratory analysis for both chemical and biological monitoring.

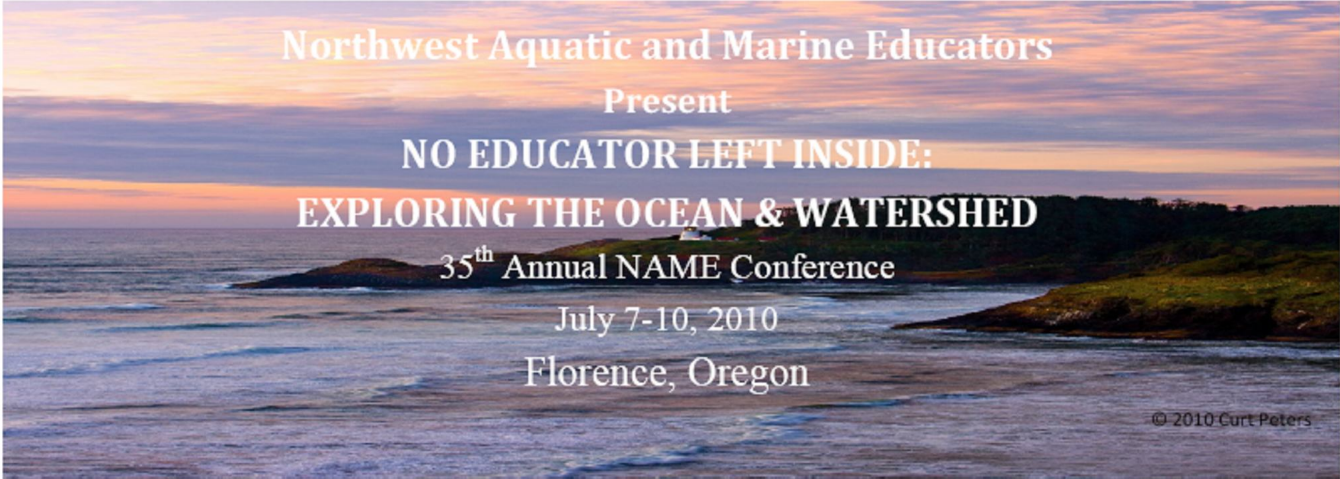
The second grant was awarded to Laurelynn Brooks of Mount Vernon High School. The grant will be used to provide funding for the "Every Child to the Beach: Stewardship through Connection" program. This program enables high school marine biology students to participate in hands-on field studies at Padilla Bay and Deception Pass. The students then use what they've learned to teach local elementary school students through the Junior Naturalist program.

The NAME Board of Directors was so impressed by the list of great proposals that they worked on a way to fund more than the usual two for the round. It was decided that WA NAME would fund a third mini-grant for the round. That grant went to Laurie Raben of Pioneer Elementary School in Olympia to create an "Estuary/Marine Life Tool Kit". The kit will be used to educate the school's 70 fourth grade students, and it will be able to be reused in subsequent years.

**Congratulations to all the recipients! We look forward to hearing about your projects!**

The deadline for the next NAME Mini-grant cycle is June 1. Please visit the NAME website at [www.pacname.org](http://www.pacname.org) to print out a copy of the application. For further Mini-grant application information, please contact Debbie Smith at [water\\_star@hotmail.com](mailto:water_star@hotmail.com) or 360-754-4148.





**Northwest Aquatic and Marine Educators**  
 Present  
**NO EDUCATOR LEFT INSIDE:**  
**EXPLORING THE OCEAN & WATERSHED**  
 35<sup>th</sup> Annual NAME Conference  
 July 7-10, 2010  
 Florence, Oregon

© 2010 Curt Peters

**Registration Form**

The early bird registration deadline is June 14, 2010

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**CONTACT INFORMATION**      Please print or type.

Name \_\_\_\_\_

Affiliation \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State/ Province \_\_\_\_\_ Zip/PC \_\_\_\_\_

Phone Number (Day) \_\_\_\_\_ (Evening) \_\_\_\_\_

Email Address \_\_\_\_\_ Summer Email \_\_\_\_\_

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**REGISTRATION FEES (U.S. Funds)**

FULL CONFERENCE (Includes all meals, events, sessions except Friday banquet, fieldtrip and pre-conference workshop fees.)

	Member	Non-member	
<u>Early Bird Registration</u>	\$265	\$283	_____
After June 14	\$285	\$303	_____
<u>Two-Day Registration</u>			
July 7-8	\$180	\$198	_____
July 9-10	\$260	\$278	_____
<u>Special Student Full Registration Rate</u>	\$195	\$213	_____
(Must show current student identification card at registration.)			
<b><u>TOTAL REGISTRATION</u></b>			_____

Pre-conference Workshops

(Non-members: register below at the Non-member rate and get member discount for conference registration. Costs below include continental breakfast and lunch, (except Workshop E-no breakfast)

A. Communicating Ocean Sciences with Informal Audiences	\$38	\$56		
B. Connecting Young Children to Nature	\$61	\$79		_____
C. Linking Science and Literacy Naturally	\$78	\$96		_____
(Circle Yes or No for attendance)				
D. Using the Ocean to Teach STEM Curriculum	Free	Free	Yes	No
E. Oregon Master Naturalist Program: Coast Region	Free	Free	Yes	No
<b><u>TOTAL PRE-CONFERENCE</u></b>				_____

<u>Annual Awards Banquet</u>	\$29	_____
(not included in full conference rate)		_____
	<b><u>TOTAL BANQUET</u></b>	_____

Field Trip Selection: (select first, second, third choices – by numbering them. Pay fee for first choice – refunds or additional charges assessed at registration. Be sure to check times of trips.)

___1. South Slough NERR Paddle (adult)	\$50	_____
(child)	\$25	_____
___2. Sea Lion Caves & Cape Perpetua	\$25	_____
___3. Hatfield MSC/Marine Discovery Tours	\$50	_____
___4. Paleodune Tour	\$25	_____
___5. Sandy Beach & Foredune Exploration	\$25	_____
___6. Forest Ecology & Estuarine Wetlands	\$15	_____
___7. Horseback Beach Tour	\$60	_____
___8. Sandland Adventures Dune Buggy	\$15	_____
___9. Umpqua Discover Center/Dean Cr. Elk	\$15	_____
___10. Dune & Plover Restoration, Dune Geomorphology	\$15	_____
___11. Crabbing with Capt. Helmer	\$25	_____
___12. Siltcoos River Paddle	\$40	_____
	<b><u>TOTAL FIELD TRIP</u></b>	_____

Tickets for Non-registered Guests:

Wednesday Welcome Reception	\$20	_____
Thursday BBQ at Woahink Lake	\$10	_____
Friday Banquet and Auction	\$29	_____
Meal Plan (includes all meals except Friday Banquet)	\$130	_____
	<b><u>TOTAL ADDITIONAL TICKETS</u></b>	_____

**TOTAL FEES SUBMITTED** \_\_\_\_\_

\*Three dollars of your registration fees will be donated to offset carbon footprint for travel to the conference to Climate Trust at <http://www.climatetrust.org/>

Make checks out to Northwest Aquatic and Marine Educators in U.S funds.  
Mail registration form and remittance to

**Check all that apply below:**

Purchase  
Order# \_\_\_\_\_  
Agency \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Fawn Custer  
Oregon NAME Treasurer  
POB 90  
Seal Rock, OR 97376  
  
Cell 541.270.0027  
Fax 541.563.6851  
envtgsldrfawn@aol.com

\_\_\_ Yes, sign me up for SeaFaire. (Include SeaFaire form with registration materials.)  
  
\_\_\_ I plan to bring an auction item. (Fill out auction form and send or bring it with you to the conference.)  
  
\_\_\_ I plan to apply for college credit, clock hours, or CPD. Appropriate forms will be available at registration.

\*\* For Scholarship opportunities, please check our website [www.pacname.org](http://www.pacname.org)

**Cancellation Policy:**

**If cancellation occurs by June 26, a portion will be refunded. No refunds for cancellations after June 26, 2010**

**CREDIT OR CLOCK HOURS**

Undergrad and graduate credits, WA clock hours and CPDU's will be available through Antioch University. More information will be available at the conference. Payment will be collected at the Registration Desk during the conference.

## ACCOMMODATIONS

Please make your own lodging arrangements. Accommodation information found at Florence Event Center link\_ <http://www.eventcenter.org/accomodations.html> Time and mileage following each site are to conference event center.

**Yurt, Tent, and RV sites** have been reserved and are available at Honeyman State Park/Campground. Max cost \$39/night Please contact Fawn for availability. [envtgsldrfawn@aol.com](mailto:envtgsldrfawn@aol.com) or 541-270-0027 - **5 minutes/ 3.24 miles**

**Landmark Inn** [www.landmarkinn.com](http://www.landmarkinn.com) (800 822-7811) \$70-\$135 Take \$5 off each day for conference price— **1 min./ 0.45mi**

**Driftwood Shores** *(on the beach)* (800 422-5091) 1 queen \$70, 2 queens plus kitchen \$121-11 minutes / **5.43 miles**

**Blue Heron Inn** – (800 997 7780) \$125 -4 minutes / **2.72 mile**

**Three Rivers Casino** (877 374 8377) \$89 conference rate -2 minutes / **1.04 miles**

**Pierpoint Inn** *(Best Western)* (541 997 7191) \$ 206 2 queen or 1 king weekdays; \$233 weekends - **3 minutes /1.10 miles**

## VACATION RENTALS

Oregon Coast Craig's List- Florence

Action Reality - 1720 HWY. 101 997-8277 • [www.ocnsignal.com/action\\_listings.htm](http://www.ocnsignal.com/action_listings.htm)

Dolphin Property Management - 1830 29th Street 997-7368 • [www.oregonvacationproperties.com](http://www.oregonvacationproperties.com)

Edgewater Cottages - 3978 S.W. HWY 101,WALDPORT 563-2240 • [www.edgewatercottages.com](http://www.edgewatercottages.com)

Elson Shields Property Management- 1278 BAY ST. 997-6235 • [www.florence rentals.com](http://www.florence rentals.com)

Osprey Shores - 83727 HWY 101 S 999-0423

**Florence Chamber Of Commerce** [www.florence/chamber.com](http://www.florence/chamber.com) (541 997-3128) 290 Highway 101, Florence, OR 97439

## CONFERENCE CONTACTS:

Registration:	Fawn Custer	<a href="mailto:envtgsldrfawn@aol.com">envtgsldrfawn@aol.com</a> or 541.270.0027
Program:	Sean Hastie	<a href="mailto:hastiestuff@mac.com">hastiestuff@mac.com</a> or 503.585.3525
Field Trips:	Joy Tally	<a href="mailto:joy.tally@state.or.us">joy.tally@state.or.us</a> or 541.888.5558 ext. 27
Publicity:	Pat Willis	<a href="mailto:Patrick.willis@oregonstate.edu">Patrick.willis@oregonstate.edu</a>
Lodging:	Pat Williams	<a href="mailto:Pwilliams2183@comcast.net">Pwilliams2183@comcast.net</a>

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## SeaFaire Form for Displays and Vendors

SeaFaire is a market place of displays where individuals, agencies and organizations can share educational ideas, programs, equipment and materials appropriate for marine and aquatic educators. All "ideas" that work, demonstrations, curricula, and/or products for distribution or sale are welcome. SeaFaire will be open on Wednesday, July 7th from 5:30 to 8:30 p.m. in the lobby of the Florence Events Center. We are asking that all displays be set up at 4:30 p.m. on Wednesday, July 7th and left up until 8:30p.m. All SeaFaire presenters are encouraged to be available during the 5:30 to 8:30 p.m. event. One eight-foot table with cover will be provided (or tables may be shared by two groups). Outlets are limited and available on a first come first served basis. **You must bring your own AV equipment, lighting, extension cords, etc.** This is a public area. Please make sure to secure all of your equipment. NAME is not responsible for securing items of value.

**Set-up Time- 4:30**

**Please detach and send this form with your registration form.**

---

Presenter's Name: \_\_\_\_\_ Organization affiliation: \_\_\_\_\_

Address: \_\_\_\_\_

Contact information telephone and email address: \_\_\_\_\_

Display description (materials provided and whether free or for sale): \_\_\_\_\_ Full Table \_\_\_\_\_ ½ Table

Is electricity needed? \_\_\_\_\_ Other special needs : \_\_\_\_\_

**Space is limited, so reserve your space soon!**

If you have any questions contact Sean Hastie, [hastiestuff@mac.com](mailto:hastiestuff@mac.com) or 503.585.3525



# 2010 CONFERENCE

## TIME TO REGISTER!!!!

Visit [www.pacname.org](http://www.pacname.org) now to register and pay conference fees online!

**NAME 2010** is scheduled for **Florence, Oregon**, on the central Oregon Coast, **July 7-10**, at the Florence Event Center. Florence is a small coastal community situated at the mouth of the Siuslaw River. The area offers some unique attractions including Cape Perpetua, Heceta Head Lighthouse, Oregon Dunes National Recreation Area, Florence Old Town, and Darlingtonia Botanical Gardens, as well as miles of ocean beaches, freshwater lakes, wonderful trails, streams, waterfalls, and old growth forests.

Lodging in Florence is reasonable and camping is available at nearby Honeyman State Park, including yurts.

Washington—NAME will host the 2011 NAME Conference. The National Marine Educators Annual Conference being held in Anchorage, Alaska in 2012.



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The Northwest Aquatic and Marine Educators (**NAME**) is a "family" of educators passionate about oceans and watersheds. We believe in the magic of the world of water and its ability to facilitate learning.

To become a member of **NAME**, please contact:  
Gretchen Glaub at:  
[gretchen.glaub@gmail.com](mailto:gretchen.glaub@gmail.com)

### Scuttlebutt Newsletter

c/o Sean Hastie  
4615 Bradford Loop SE  
Salem, OR 97302

